

REMARKS

I. Interview Summaries and Time Period for Response

In an Office Action mailed February 13, 2008, the Office objected to and/or rejected various combinations of claims 1-44. Because claims 1-44 were cancelled by a Preliminary Amendment filed on September 30, 2004, Applicants' representative, Nikolas Uhlir, contacted Examiner Katarzyna Wyrozebski Lee by telephone on April 17, 2008. During the resulting interview, Applicants' representative asked Examiner Wyrozebski Lee to issue a supplemental Office Action addressing pending claims 45-88. Examiner Wyrozebski Lee agreed to do so.

Subsequent to this interview, Applicants received a Supplemental Office Action mailed April 21, 2008, regarding the above identified application. On page 2 of the Supplemental Office Action, the Office states "[t]he applicants submitted preliminary amendment, which was not reflected in the FOAM [(First Office Action on the Merits)]. Since new claims are mapped exactly the same as original claims, all prior art rejections are incorporated herein and only restated to reflect newly numbered claimed. As a result, time **will not been restarted**." Office Action mailed April 21, 2008, page 2 (emphasis added). However, on page 1 of that same Office Action, the Office indicates that "A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR 30 DAYS, WHICHEVER IS LONGER, **FROM THE MAILING DATE OF THIS COMMUNICATION**." *Id.* at 2 (emphasis added, capitalization in original).

Because of the inconsistency between the response periods stated on pages 1 and 2 of the Supplemental Office Action, Applicants' representative contacted Examiner Wyrozebski Lee by telephone to seek clarification of the response deadline. Examiner

Wyrozebski Lee indicated that her intention was not to restart the time period, but that because the time period for response indicated on the Patent Application Information and Retrieval System was consistent with the time period stated on page 1 of the Supplemental Office Action (i.e., three months from the mailing date of the Supplemental Office Action, with extensions available under 37 C.F.R. §1.136), she would not object if Applicants calculated the time period for response based on the mailing date of the Supplemental Office Action. Applicants' representative thanked Examiner Wyrozebski Lee for the clarification.

In view of Examiner Wyrozebski Lee's comments and page 2 of the Supplemental Office Action, Applicants believe that a response to the April 21, 2008, Supplemental Office Action was due on July 21, 2008, with three one-month extensions of time available. Accordingly, Applicants have concurrently filed a Petition for a one month extension of time to extend the time period for response to August 21, 2008.

To avoid any argument that Applicants have missed a final deadline, Applicants have intentionally filed this response on or before the expiration of the six month time period for responding to the February 13, 2008, Office Action (i.e., on or before August 13, 2008). In addition, while Applicants believe that no further extension of time is necessary to respond to the April 21, 2008, Supplemental Office Action, to the extent such time is needed, Applicants respectfully request that the Office grant such time and charge any necessary fees to Deposit Account No. 06-916.

II. Initial Remarks

Claims 45-88 are pending and under consideration on the merits. Claim 45 has been amended to recite, *inter alia*, a “tyre for a vehicle wheel, comprising . . . from 1 phr to 15 phr of at least one zinc salt of a carboxylic acid” Claims 66 and 77 have been similarly amended, though they are drawn to a tyre tread band and an elastomeric composition, respectively. In addition, the ranges recited in claims 51, 71, and 82 have been amended to change the lower endpoint from 0.1 to 1.

Support for these amendments may be found in the as-filed specification and claims. For example, support for the upper endpoint of the range recited in claims 45, 66, and 77 may be found in original claim 22, and support for the lower endpoint of the range recited in amended claims 45, 51, 66, 71, 77, and 82 may be found in original claim 28. Applicants therefore submit that none of these amendments raise any issue of new matter.

In the Supplemental Office Action dated mailed April 21, 2008, the Office:

- rejects claims 45-88 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. US 2002/0177641 (“Ezawa”) in view of U.S. Patent No. 6,333,375 (“Nakamura”) (Supplemental Office Action, pages 2-5;
- rejects claims 45-50, 53-57, 59-70, 73-80 and 84-88 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,656,680 (“Aguirre”) (*See id.* at 5-6); and
- objects to the preliminary amendment dated September 30, 2004, as not being in compliance with U.S. Practice and Procedure (*See id.* at 6).

In response, Applicants respectfully submit the following remarks.

III. Response to Claim Rejections and Objection to the Preliminary Amendment filed September 30, 2004

A. 35 U.S.C. § 103(a) rejection of claims 45-88 as unpatentable over Ezawa in view of Nakamura

The Office asserts that claims 45-88 are unpatentable over Ezawa in view of Nakamura for the reasons set forth at pages 2-5 of the Supplemental Office Action. In essence, the Office maintains that both of these references disclose all of the elements of the present claims, with the exception of one element. In Ezawa, the missing element is the claimed zinc salt, whereas in Nakamura, the missing element is the claimed fatty acid amide.

To correct these deficiencies, the Office asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ezawa and Nakamura in an attempt to form a tyre/tread band/elastomeric composition within the scope of the present claims. See Supplemental Office Action, page 5. As the basis for this combination, the Office alleges that "[t]he combination of two known compositions is expected to work in additive or cumulative manner." *Id.* at 4. Based on this assertion, the Office argues that one skilled in the art would have found it obvious to combine Ezawa and Nakamura so as to arrive at "a tire tread with improvements suggested by both disclosure[s]... better dispersion of filler... as well as lower heat build-up, processability and tensile properties." *Id.* at 5.

Applicants respectfully disagree with and traverse this rejection for at least the following reasons.

Several basic factual inquiries must be made in order to determine the obviousness or non-obviousness of claims of a patent application under 35 U.S.C. § 103. These factual

inquiries, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966), require the Examiner to:

- (1) Determine the scope and content of the prior art;
- (2) Ascertain the differences between the prior art and the claims in issue;
- (3) Resolve the level of ordinary skill in the pertinent art; and
- (4) Evaluate evidence of secondary considerations.

The obviousness or non-obviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 U.S.P.Q. at 467; *see also KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) and M.P.E.P. §2141 (Rev. 6, Sept 2007). The Supreme Court in *KSR* also held that "[t]here is no necessary inconsistency between the idea underlying the TSM [teaching, suggestion, motivation] test and the *Graham* analysis." M.P.E.P. §2141(III) (rev. 6, Sept. 2007), citing *KSR* at 82 U.S.P.Q.2d at 1396. Applicants understand this to mean that when applicable, as here, TSM reasoning may still be applied not only by an examiner but also by an applicant to refute a §103 rejection.

In the present case, Applicants respectfully disagree with the Office's position, at least because neither Nakamura or Ezawa provide any information that would motivate one of ordinary skill in the art to combine these references in an attempt to arrive at the claimed invention. *See* claims 45, 66, and 77; *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

In this regard, Applicants note that Nakamura discloses rubber compositions that yield vulcanized rubbers showing improvements in heat build-up, tensile strength, abrasion resistance, and processability. Nakamura, column 1, lines 4-7. These compositions incorporate a "fatty acid salt . . . into a mixture of a diene rubber and a

reinforcing agent” See *id.* at column 2, lines 1-11. Nakamura indicates that suitable diene rubbers include natural rubber, polyisoprene, certain SBR rubbers, polybutadiene rubber, and other materials. See *id.* at column 2, lines 15-35. Silica and carbon black may be used as the reinforcing agent. See *id.* at column 12, lines 10-32. Regarding the fatty acid salt, Nakamura discloses 66 possible options, including four zinc salts, and states that “[n]o particular limitation is placed on the type of fatty acid salt.” *Id.* at column 13, lines 35-36 and column 13, line 62-column 14, line 17. Finally, Nakamura discloses that a vulcanization activator may be added to the composition, and identifies stearic acid and zinc oxide as being suitable for this purpose. See *id.* at column 15, line 65-column 16, line 2.

However, Nakamura appears to be silent with respect to a tyre/tread band/elastomeric composition comprising a fatty acid amide, as claimed. See claims 45, 66, and 77. Moreover, Nakamura appears to be silent with respect to a tyre/tread band/elastomeric composition comprising the claimed combination of a zinc salt of a carboxylic acid *and* a fatty acid amide. See *id.* Finally, Nakamura appears to be silent with respect to a tyre/tread band/elastomeric comprising *both* a zinc salt of a carboxylic acid *and* a fatty acid amide within the claimed concentrations. See *id.*

Ezawa, like Nakamura, is also deficient with respect to the present claims. Ezawa relates to a silicon containing rubber composition having improved fracture resistance. See Ezawa at [0001]. This composition comprises “a rubber ingredient, not less than 20 parts by weight of silica based on 100 parts by weight of the rubber ingredient, and at least one of amide-group-containing compounds, a phenol resin and a resin-curing agent.” See *id.* at [0007]. As the amide-group-containing compound,

Ezawa discloses that various compounds, including stearic acid amide are suitable. *Id.* at [0013]. The amide-group-containing compound may be added in an amount ranging from 0.3-10 parts by weight, based on 100 parts by weight of the rubber ingredient. See *id.* at [0014].

However, Ezawa appears to be silent with respect to a tyre/tread band/elastomeric composition comprising at least one zinc salt of a carboxylic acid, as claimed. See claims 45, 66, and 77. Moreover, Ezawa appears to be silent with respect to a tyre/tread band/elastomeric composition comprising the claimed combination of a zinc salt of a carboxylic acid *and* a fatty acid amide. See *id.* Finally, Ezawa appears to be silent with respect to a tyre/tread band/elastomeric comprising *both* a zinc salt of a carboxylic acid *and* a fatty acid amide within the claimed concentrations. See *id.*

Thus, the burden is on the Examiner to explain **why** one of ordinary skill would combine Nakamura and Ezawa in an attempt to arrive at the claimed invention, and **why** such a combination would have predictable results. See *KSR, supra*; M.P.E.P. 2143(A) (explaining that to reject a claim based on the combination of prior art elements to yield known result, an examiner must, *inter alia*, “articulate . . . a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable”). Here, however, the Office has not articulated such a finding. Moreover, even if the Office had articulated such a finding, it has not supported that finding with **evidence**, as required by law. See *In re Zurko*, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001) (“With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or expertise . . .

Rather, the Board **must point to some concrete evidence** in the record in support of these findings.") (emphasis is added).

Applicants respectfully remind the Office that prior art references must be considered in their entirety, i.e., **as a whole**, including portions that would **lead away** from the claimed invention. See *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965) (holding that "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art."); M.P.E.P. § 2141(II) (citing *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 (Fed. Cir. 1986) and indicating that the use of hindsight reasoning to establish obviousness under § 103 is improper) (emphasis added). In the present case, Applicants submit that one of ordinary skill in the art, considering the disclosures of Nakamura and Ezawa as a whole, would see no reason to combine their teachings in an attempt to arrive at the presently claimed invention. Moreover, given the complete lack of evidence supporting the Office's position, Applicants submit that the Office has used improper hindsight reasoning to arrive at its conclusion of obviousness.

In support of this position, Applicants respectfully point out that Nakamura and Ezawa are each drawn to achieving a solution to different problems in the art. That is, Ezawa is directed to obtaining compositions with improved fracture resistance, whereas Nakamura is drawn to compositions with improved heat build-up, tensile strength, abrasion resistance, and processability characteristics. See Nakamura, column 1, lines 4-7; Ezawa, paragraphs [0006] and [0010]. Each of these solutions are disclosed to be wholly satisfactory for their intended purposes. Thus, the burden is on the Office to explain **why** one of ordinary skill, without some indication from the references, would

combine Nakamura and Ezawa in an attempt to arrive at the claimed invention. The Office, however, has provided no such explanation in the Supplemental Office Action.

Further, Applicants again note that while Nakamura discloses fatty acid salts, and Ezawa discloses fatty acid amides, *neither* teaches or suggests the combination of a fatty acid salt with a fatty acid amide in a tyre/treadband/elastomeric composition, as claimed. See claims 45, 66, and 77. Moreover, neither of these references specifically suggest the use of a *zinc* carboxylic acid salt, as opposed to some other metal salt. Indeed, as described above, Nakamura discloses approximately sixty six examples of fatty acid salts, wherein only four are zinc salts, none of which are listed as particularly preferred. See Nakamura, column 13, line 35-column 14, line 51. And finally, neither reference provides any disclosure that would suggest to one of ordinary skill in the art that zinc salts of a carboxylic acid and fatty acid amide compounds could a) be suitably used in combination in a tyre/tread band/elastomeric composition; and b) would predictably result in the achievement of beneficial properties. Thus, again, the burden is on the Office to explain *why* one of ordinary skill would combine Nakamura and Ezawa in an attempt to arrive at the claimed invention, when the references neither teach or suggest such combination.

The Office, however, has provided no such explanation in the Supplemental Office Action. Rather, the Office merely states that “[t]he combination of two known compositions is expected to work in additive or cumulative manner.” Supplemental Office Action, page 4 (citing *In re Kerkhoven* 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)).

However, nowhere in the *Kerkhoven* decision does the court hold that the combination of **ingredients** in order to form a **composition** that might be useful for a particular purpose is prima facie obvious. Rather, the appealed claims in *Kerkhoven* were directed to a process for forming a detergent, comprising forming two aqueous slurries, where one slurry was predominantly an anionic detergent and the other was primarily a nonionic detergent, independently or simultaneously drying the slurries, and mixing the resulting products. See *Kerkhoven*, 205 U.S.P.Q. at 1070. It was acknowledged that prior art detergents comprised a mixture of anionic fatty acid soaps, anionic detergents, and nonionic detergents. *Id.* To make the known detergents, all of the ingredients were combined together in one slurry and then spray dried. *Id.* Therefore, the court held that the claims at issue requiring “no more than the mixing together” of two conventional detergents to make a third detergent composition set forth “prima facie obvious subject matter.” *Id.* at 1072 (emphasis added).

Thus, the Office’s reliance on *Kerkhoven*’s “mere mixing” holding is misplaced, as the facts in *Kerkhoven* involve the mixing of two detergent **compositions**, whereas the Office’s rationale in the Supplemental Office Action involves the selection and combination of specific **components** of the compositions of Nakamura and Ezawa. The mixing in *Kerkhoven* of two compositions in their entirety to form a third composition performing the same function is substantially different than the selection and combination of individual ingredients from two different tire rubber compositions to form a third and unsuggested rubber composition that *might or might not* be suitable for use in tires. Indeed, if the rationale articulated in the Supplemental Office Action were tenable, it would render obvious every tire rubber composition that is comprised of

ingredients known to be useful in such compositions. Such a standard was not the holding in *Kerkhoven* and is not the law in determining obviousness.

For at least the foregoing reasons, Applicants respectfully submit that the Office has failed to meet the burdens necessary to establish a *prima facie* case of obviousness based on Nakamura and Ezawa, at least because it has failed to provide any evidence explaining *why* one of ordinary skill would combine these references in an attempt to arrive at the claimed invention. In view of this lack of evidence, Applicants submit that the Office has used hindsight reasoning to arrive at the claimed invention, which is not a proper route to establishing obviousness under 35 U.S.C. § 103(a). See *Hodosh v. Block Drug Co., Inc.*, *supra*. Applicants therefore submit that the 35 U.S.C. § 103(a) rejection of claims 45-88 as unpatentable over Nakamura and Ezawa is improper, and should be withdrawn.

B. 35 U.S.C. § 103(a) rejection of claims 45-50, 53-57, 59-70, 73-80, and 84-88 as unpatentable over Aguirre

The Office rejects claims 45-50, 53-57, 59-70, 73-80, and 84-88 under 35 U.S.C. § 103(a) as being unpatentable over Aguirre for the reasons set forth at pages 5 and 6 of the Supplemental Office Action. As the basis for this rejection, the Office alleges that in example 6, Aguirre discloses a composition comprising each of the elements of claims 45-50, 53-57, 59-70, 73-80, and 84-88, except for the claimed concentration of zinc salt. Supplemental Office Action, page 5. Specifically, the Office asserts that Aguirre discloses “the use of 16 pbw of zinc stearate while the present claims require 15 pbw.” *Id.* However, the Examiner indicates that because there is only a “slight difference between the 16 pbw of fatty acid salt disclosed by [Aguirre] and the

15 pbw disclosed in the present claims..." it "would have been obvious to one of ordinary skill in the art that the amount disclosed in... [Aguirre] is but an obvious variant of the amounts disclosed in the present invention. *Id.*

Applicants respectfully disagree with and traverse this rejection, at least because the Office's position improperly correlates the pbw (i.e., parts by weight) of components disclosed by Aguirre, with the phr (i.e., parts per hundred parts resin) of components recited in the present claims. Parts by weight is a relative measure of the amount of a component relative to the total weight of the composition. In contrast, parts per hundred parts resin is a relative measure of the weight of a component, relative to 100 parts of a resinous component of the composition. Thus, contrary to the Office's assertion, pbw and phr generally are not equivalent measures of the amount of a component of a composition.

With the above in mind, example 6 of Aguirre does not contain the claimed 1 to 15 phr of at least one zinc salt of a carboxylic acid, as will be discussed in detail below. See claims 45, 66, and 77.

In example 6, Aguirre discloses that three sample processing aids were prepared by adding 7.5 parts by of mink wax, 7 parts of stearamide, 16 parts cetyl alcohol, 5 parts of Zonyl surfactant, 7 parts of polyethylene wax, 16 parts of zinc stearate, 5.5 parts of X-100, and varying amounts of dodecylbenzene sulfonic acid and SF-1080 silicone. The mixture was stirred and then sprayed onto varying amounts of powdered silica to form a processing aid. See Aguirre, column 12, lines 10-20 and column 16, lines 55-67. 1.74 grams of the processing aid was added to rubber compound comprising 30g of a Malaysian rubber, 10g of a polybutadiene rubber; 55 g of a styrene butadiene rubber,

1.25 g of stearic acid, 9 g of a processor, 5 g of zinc oxide, 3 g of sulfur, and 0.7 grams of an accelerator. See *id.* at column 17, lines 12-25.

From the above, it is clear that each 1.74g aliquot of processing aid in example 6 of Aguirre includes 16% of zinc stearate. Thus, approximately 0.278g ($0.16 \times 1.74\text{g}$) of zinc stearate was added to the disclosed 90.9 parts of rubber compound. Normalizing to 100g of rubber compound, Applicants calculated that the rubber compound in example 6 contains ~0.306 phr of zinc stearate, which is well outside the claimed range of 1 to 15 phr.¹ See claims 45, 66, and 77.

From the above, it is clear that example 6 of Aguirre does not disclose a composition comprising a zinc salt of a fatty acid in an amount within the presently claimed range of 1 to 15 phr. Indeed, based on the above calculations, the claimed tyre/tread band/elastomeric compositions contain approximately 300-4600% more of a zinc salt of a fatty acid than is disclosed in example 6 of Aguirre. Applicants submit that such a great different renders the Office's reliance on the holdings of *In re Woodruff*, 919 F.2d 1575 (Fed. Cir. 1990) and *Titanium Metals Corp. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985) improper. See Supplemental Office Action, page 5. Moreover, Applicants note that the Office has provided no evidence establishing *why* one of

¹ Example 6 only contains ~90.9g of resinous rubber (the resinous portion of the butadiene and SBR rubbers are 9.2g and 51.7g respectively). Applicants normalized to 100g of resinous rubber by multiplying the amount of resinous rubber (90.9g) and added zinc stearate (0.278g) by 1.1. From this, Applicants determined the phr of zinc stearate in example 6 by dividing the normalized amount of zinc stearate (0.306 g) by the normalized amount of rubber (100 g). $0.306\text{g zinc stearate} / 100\text{g rubber} = 0.306\text{ phr zinc stearate}$.

ordinary skill at the time the invention was made would modify Aguirre in an attempt to arrive at the claimed invention.

For at least the foregoing reasons, Applicants submit that the Office has not met the burdens necessary to establish a prima facie case of obviousness under 35 U.S.C. 103(a) in view of Aguirre. Applicants therefore submit that the 35 U.S.C. § 103(a) rejection of claims 45-50, 53-57, 59-70, 73-80, and 84-88 is improper, and should be withdrawn.

C. Objection to the Preliminary Amendments to the Specification filed September 30, 2004.

The Office objects to the amendments to the specification included in the Preliminary Amendment filed September 30, 2004, for the reasons set forth at page 6 of the Supplemental Office Action. In particular, the Office states that “[i]t is USPTO practice to submit an entire paragraph with changes or additions either underline [or stricken through] much like with the claims. The amendment to the specification is therefore objected to.

In response, Applicants note that in the Preliminary Amendment filed September 30, 2004, several amendments to the specification were made. In particular, the title paragraph of the specification was amended, several new paragraphs were added in the form of section headings, and a new page was added including an Abstract of the Disclosure. See Preliminary Amendment filed September 30, 2004, pages 2-4. With this in mind, 37 C.F.R. § 1.121(b) explains that amendments to the specification may be made by “deleting, adding, or replacing a paragraph” If an amendment is made by replacing a paragraph with an amended paragraph, “[t]he full text of any replacement

paragraph with markings to show all the changes relative to the previous version of the paragraph." 37 C.F.R. § 1.121(b)(1)(ii). However, if amendment is made by adding a paragraph, the full text of the added paragraph must be provided without markings. See *id.* at § 1.121(b)(1)(iii).

In the September 30, 2004, Preliminary Amendment, and the January 31, 2005, Supplemental Preliminary Amendment, Applicants supplied the added paragraphs without markings, as required by the M.P.E.P. and 37 C.F.R. § 1.121(b)(1)(iii). Thus, Applicants respectfully submit that inasmuch as the Office's objection pertains to the added paragraphs (section headings and claim of priority paragraph), it is improper and should be withdrawn.

With respect to amendments to the specification that modify an existing paragraph, such as the title, 37 C.F.R. § 1.121(b)(1)(ii) provides that only a marked up paragraph must be provided, showing additions and deletions. In the September 30, 2004, Preliminary Amendment, Applicants amended the title by providing a paragraph showing the edits. Nothing further is required. Thus, Applicants respectfully submit that inasmuch as the Office's objection pertains to the amended paragraphs (title), it is improper and should be withdrawn.

IV. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account no. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: August 12, 2008

By: 

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